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## RIBES VULGARE AND ITS INDIGENOUS REPRESENTATIVES IN EASTERN NORTH AMERICA.

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THE common Red Currant (*Ribes vulgare*) of our gardens has become well established along fence-rows, in roadside thickets, in open woods near towns, and in other places where its seeds have been easily spread, by birds and other agents, from the cultivated shrubs. In these half-wild habitats the plant has thus far shown little or no tendency to vary from the Old World type from which it was derived.

In low coniferous forests and mossy swamps and in subalpine districts of New England and eastern Canada, however, where the commonly cultivated European *Ribes vulgare* is as yet unknown, there are two indigenous red currents which have been passing as identical with or scarcely separable from the introduced plant of the gardens. These plants have several characters in common by which they are readily distinguished from the cultivated shrub. *R. vulgare* is usually upright, bearing numerous leafy tufts more or less mingled upon the old wood with the flower-bearing shoots. The blades of the mature leaves are 3.5 to 6.5 cm. broad, somewhat broadened upward, the lobes mostly short-ovate, the middle one rarely broader than long. The pedicels are mostly smooth and glandless, in one form only soft-pubescent. The rotate calyx is greenish-yellow, its oval lobes abruptly narrowed below the middle and the petals are narrowly wedge-shaped. At the base of the calyx, between the stamens and the slightly-cleft style, there is a high but narrow obtusely scalloped ring.<sup>1</sup>

<sup>1</sup> As recently shown by Professor Janczewski, two European species have been passing as *Ribes rubrum*. One, the true *R. rubrum* L., with its "habitat in Sueciae borealibus," has the calyx somewhat cup-shaped, brown or mottled with red and destitute of a disk. This species so far as known to the writer is not found wild in America. The other, *R. vulgare* Lam., with the flat calyx yellowish green and bearing a prominent disk, is the common species of cultivation. (See Edouard de Janczewski, Comp. rend. acad. franc., cxxx. 1890, 588; and Bull. Acad. Cracovie, Janvier, 1906, 3.)

In the indigenous shrubs of our northern forests and mountain-slopes the stems are decumbent or loosely straggling or reclining, often rooting freely where they touch the ground. The leafy shoots are produced chiefly from terminal buds while the numerous racemes appear below the leafy tips along the otherwise naked old wood. The blades of the mature leaves are 5 to 10 cm. broad, the sides nearly parallel, the lobes mostly broad-deltoid, the middle one usually broader than long. The pedicels are more or less covered with reddish or yellowish glands. The calyx is smoke-color or dull purplish, its segments very broadly cuneate, and the petals of similar outline. At the base of the calyx, between the stamens and the deeply-cleft style, there is a low and broad pentagonal disk.

In all their essential characters the indigenous shrubs are uniform, but while the plants of one region have the leaves bright green and glabrous or glabrate upon both surfaces, those of other localities are whitened beneath with tomentum. Whether this production of pubescence is due to peculiarities of the soil such as have been pointed out in the case of *Ribes oxycanthoides*, var. *calcicola*<sup>1</sup> it is not now possible to state with certainty. It is, however, significant that the only phase of the plant known to the writer from the granitic mountains of Quebec and northern New England — Table-topped Mountain, Katahdin, the White Mountains, etc.— is the shrub with glabrous or glabrate leaves; plants from the humus of woodlands and swamps where the characteristic rock is more or less calcareous have the veins on the lower surfaces of the leaves somewhat ciliated with inconspicuous hairs — for example, specimens from low woods and Arbor-Vitae swamps in Rimouski County, Quebec, northern Maine and northern Vermont; and the shrubs which have unquestionably grown in strongly calcareous soils — specimens, for instance, from crevices of calcareous slates at Fort Kent and at Brownville, Maine — retain to maturity a soft coat of whitish tomentum. Most herbarium labels unfortunately give no information upon these points and further observations are necessary before we can state finally that the two extremes of our indigenous red current are due to local soil-conditions. Both in the field and in the herbarium the two plants are notably different in aspect, the one with quite green foliage, the other with the leaves strongly whitened beneath.

<sup>1</sup> Fernald, RHODORA, vii. 155 (1905).

The shrub with the leaves whitened and permanently tomentose beneath is the plant described by Pallas from northern Asia as *Ribes triste*, and later redescribed by Maximowicz as *Ribes rubrum*,  $\gamma$  *subglandulosum*, from Siberia, Mandshuria and the colder regions of America. The other, with the mature leaves glabrous or at most ciliate along the nerves beneath and green on both surfaces, is well matched by Michaux's material of his *R. albinervium* described from Canada ("ad amnem *Mistassin*"). The characteristics and distribution in eastern America of the smooth-fruited red currents may be briefly stated as follows:—

**RIBES VULGARE** Lam. Suberect shrub: leaves mostly cordate, slightly pubescent beneath or glabrate; the mature blades 3.5 to 6.5 cm. broad, broadened upwards, 3-5-lobed, the lobes mostly short-ovate: racemes spreading in anthesis, drooping in fruit, 3 to 5 (becoming 7) cm. long: the rachis glabrous, though often glandular: the pedicels mostly glandless: calyx yellow-green; its segments oval and abruptly narrowed below the middle: petals narrowly cuneate: disk between the stamens and the slightly-cleft style a high narrow ring with round-scalloped margin: fruit plump and juicy.—*Encyc.* iii. 47 (1789); Janczewski, *Compt. rend. acad. franç.*, cxxx. (1890) 588, and *Bull. Acad. Cracovie*, Janv., 1906, 3. *R. rubrum*, var. *sativum* Reichb. *Fl. Excurs.* 562 (1830). *R. rubrum*, most authors, not L. Common in cultivation and frequently escaped and established in fence-rows, thickets and open woods. Naturalized from Europe.

**R. TRISTE** Pallas. Straggling or reclining, the branches often rooting freely: leaves somewhat heart-shaped, the mature blades 5 to 10 cm. broad, the sides nearly parallel, the lobes mostly broad-deltoid, permanently white-tomentose beneath: racemes drooping, 3.5 to 9 cm. long: pedicels mostly glandular: calyx smoke-color to purplish; the segments broadly cuneate or subrhombic, as broad as or broader than long: petals broadly cuneate: disk a low broad pentagon: style deeply cleft: fruit mostly small and hard.—*Pall. in Nov. Act. Acad. Petrop.* x. (1797) 378; Janczewski, *Bull. Acad. Cracovie*, Janv., 1906, 3. *R. rubrum* of many authors, not L. *R. rubrum*, var. *subglandulosum* Maxim. *Bull. Acad. St. Petersb.* xix. 261 (1874). Cold woods, swamps, and subalpine regions, Newfoundland to Alaska, south to Maine and Vermont, perhaps confined to regions of pronouncedly calcareous soil. Also in Siberia and Mandchuria.

Var. **albinervium** (Michx.) Similar, but with the leaves glabrous or sparingly pubescent beneath when young, soon glabrate. *R. albinervium* Michx. Fl. i. 110 (1803).— More common, extending south to Nova Scotia, central New Hampshire, southern Vermont, Michigan, Wisconsin, etc.

GRAY HERBARIUM.

### CONNECTICUT RUBI.

WM. H. BLANCHARD.

THIS paper presents some of the facts obtained and conclusions reached by me during ten weeks spent in Connecticut searching out and studying its Rubi, more especially its blackberries. Visits of a week or more each were made in August, 1903, in July, 1904, and in June and August, 1905; and five weeks in June, July, August and September, 1906, were devoted to the work. Southington and Plainville were pretty thoroughly searched and much was done in the surrounding towns especially in Bristol, New Britain, Newington, Farmington, West Hartford, Berlin and Wethersfield. Trips were taken to New London and Norwich, Stamford, Winsted, and Somers, and numerous shorter ones were made. Mr. C. H. Bissell and Mr. Luman Andrews of Southington, Mr. W. B. Rossberg of New Britain and Dr. C. B. Graves of New London very kindly aided by visiting localities with me and exhibiting specimens.

**RUBUS OCCIDENTALIS** L. Black Raspberry. Abundant in all parts of the state. It probably thrives no better anywhere than in Connecticut, which is far enough south for it to be at home on the highest land. The fact does not seem to be generally known that this is a comparatively southern species and is found in Northern New England like the white oak and white pine only in favored places, occurring rarely in the high or northern parts.

**R. STRIGOSUS** Michx. Red Raspberry. Abundant in all parts of the state. While *R. occidentalis* is a comparatively southern plant, *R. strigosus* is a northern plant and it fruits very poorly in Connecticut.